

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 63190A	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/US2004/021173	International filing date (day/month/year) 30.06.2004	Priority date (day/month/year) 07.07.2003	
International Patent Classification (IPC) or national classification and IPC C08J9/00			
Applicant DOW GLOBAL TECHNOLOGIES INC. et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (Indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 05.05.2005		Date of completion of this report 28.09.2005	
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Puttins, U Telephone No. +49 89 2399-8661	



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International application No.
PCT/US2004/021173

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-13 as originally filed

Claims, Numbers

1-23 as originally filed

Drawings, Sheets

1/2-2/2 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-23
	No: Claims	
Inventive step (IS)	Yes: Claims	1-23
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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Re Item V

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty and inventive step;
citations and explanations supporting such statement**

Reference is made to the following document:

D1 : US 5 000 992 A (KELCH ROBERT H) (1991-03-19)

1. Novelty (Art.33(2) PCT):

The subject-matter of present claims 1 to 23 is considered novel over the prior art documents cited in the International Search Report and the application, since none of the documents discloses a foamed polyolefin sheet of 3 to 8 mils thick having an MD tear strength of at least 150 g/mil and a process for producing said polyolefin sheet by foaming and melt blowing a mixture of an LLDPE and an LDPE.

2. Inventive Step (Art.33(3) PCT):

The subject-matter of present claims 1 to 23 is based upon an inventive step, since there is no hint in document D1, which is considered to represent the closest prior art, alone or in combination with any other document cited in the International Search Report for the claimed polyolefin sheet and the process for producing the same for the following reasons:

Document D1 discloses a polyolefin sheet of 6,5 mils thickness having an MD tear strength of 355 g/mil (cf. D1, example 1).

The polyolefin sheet claimed in the present claims differs from that disclosed in D1 in that the foamed polyolefin sheet as claimed in present claims only consists of a single layered foam sheet, whilst in D1 a at least double layered sheet is disclosed, whereby one of the layer must be a solid sheet.

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As compared to the disclosure of D1, the problem to be solved by the present application may be regarded as to provide a thin foamed polyolefin sheet which should have a high tear strength.

The applicant has shown in several examples and one comparative example that the problem posed was solved by the claimed sheet preparable by foaming and melt blowing of a mixture of LLDPE and LDPE.

Since there is no teaching in D1 for the use of the specific composition in the process claimed in present claim 15 for preparing a thin foamed polyolefin sheet having the above high tear strength, this document cannot render the claimed foam sheet obvious. As there is furthermore also no teaching in any other document found in the International Search Report for this specific composition and the resulting foam sheet, the presence of an inventive step can be acknowledged.

Re Item VII

Certain defects in the international application

- 1.) The following units are not additionally expressed in terms of the units stipulated by Rule 10.1(a) and (b) PCT:
"mils" in claims 1-5, 16 and 17 as well as at pages 1, 3-6, 12 and 13; "inch" in claims 4, 5 and at pages 6, 7, 11 and 12; "PSI" at pages 10-12; "lbs" at pages 11 -13; "°F" at pages 11 and 12, "microns" in claim 2 and at pages 4 and 5.
- 2.) The "incorporation by reference" of the entire contents of other documents could lead to doubt as to the extent of protection sought by the claims (cf. pages 7 and 9).

Re Item VIII

Certain observations on the international application

- 1.) The claims are not consistent with the description as in claim 1 a sheet is claimed having a tear strength of at least 150 g/mil whilst in the description at page 4, lines 10-11, it is stated that the "films of the present invention ... have an MD tear strength of at least 160

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g pro 3 mils", which means that this film has a tear strength of about 50 g/mil as stated at page 5, line 24.

2.) The use of the word "about" in connection with the limits of ranges renders the scope of protection sought by the claims unclear (Art.6 PCT) (see claims 13 and 22).